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82-1876

OPEN FILE

ANNUAL REPORT TO THE MINES DEPARTMENT

EL 21/78

by

S. Grieve Brown

MICROFILMED

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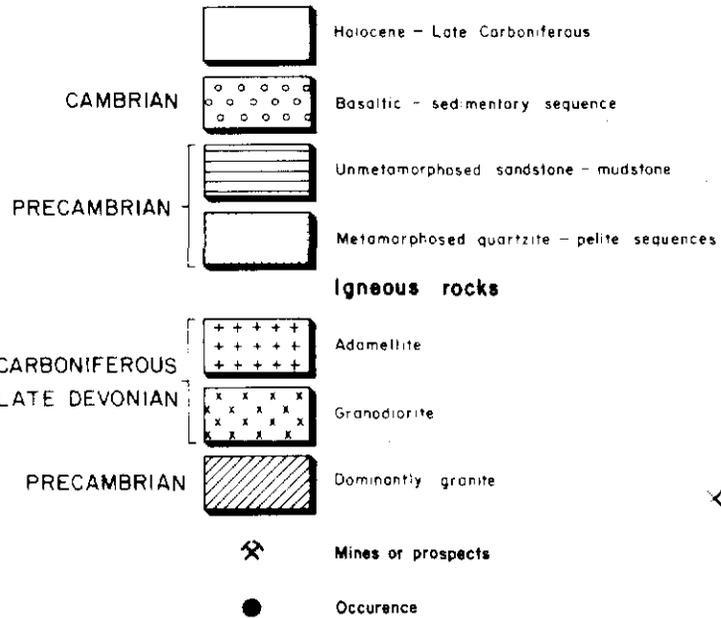
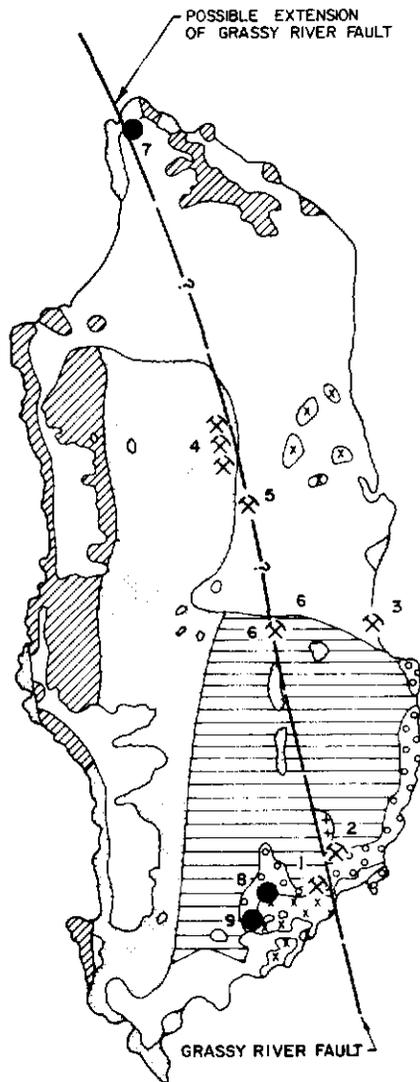
INTRODUCTION

Exploration Licence 21/78, first granted in January 1980, is held by Warman Services Limited over an area of 37 square kilometers offshore of South East King Island. This licence is contiguous with E.L. 15/66 and covers the offshore portion of the Grassy Granite Contact. (Figure 2)

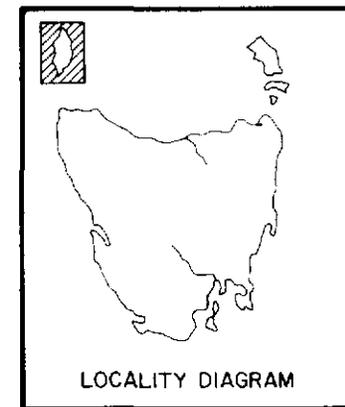
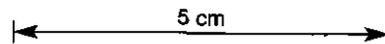
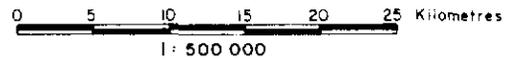
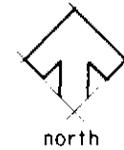
Included within E.L. 21/78 is a portion of Mineral Lease 17M/79 covering an area south of Dolphin Mine. Only work carried out on ML 17M/79 for exploration purposes has been costed against E.L. 21/78. This, as in previous occasions, excludes normal oreblocking diamond drilling in the mines but includes any holes drilled to test for major extension to the mine series sequence.

The overall interpretation of the geology of E.L. 21/78 remains the same as presented in the previous report, January 1982. The potential for tungsten deposits of mineable size and grade to occur within this licence area is still considered high. Suitable, cost effective, technology is not currently available to allow drilling to be carried out purely for structural purposes offshore, without further study of available methods of target definition. For this reason the major effort has now been concentrated in the northern portion of the licence where the southwards continuation of the mine series rocks from the Dolphin Mine can be tested by conventional drilling methods.

Progress during the first half of the year was satisfactory but the downturn in the tungsten market led to a suspension of active exploration in the second half. During the later part of the year a reassessment of the structure of the Dolphin Mine and possible extensions of the mine series to the south was carried out.

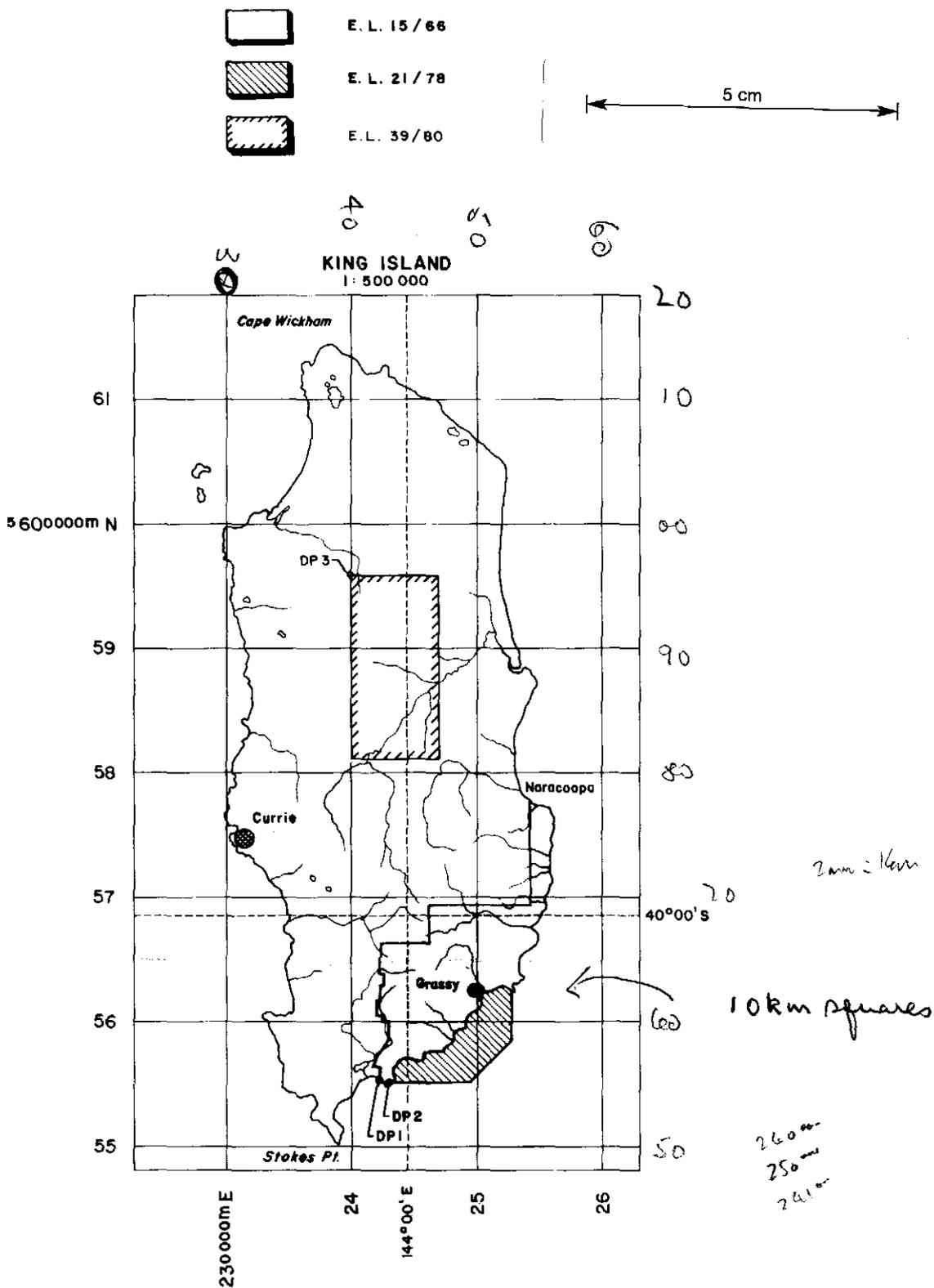


1. DOLPHIN/N^o1 OREBODY - W, Mo
2. BOLD HEAD - W, Mo
3. NARACOOPA - Beach Sands
4. REEKARA - W, Sn
5. HAWKES ALLUVIAL - Sn, W
6. FRASER RIVER - Au
7. VICTORIA COVE - W
8. LOOP ROAD - W, Mo
9. INVESTIGATOR 21 - W, Mo



KING ISLAND GEOLOGICAL MAP
FIGURE 1

FIGURE 2
COMPANY EXPLORATION LICENCES - KING ISLAND



DATA POINTS (DP) CO-ORDINATES

DP1 - E.L. 15/66:	5 555 260m N	241 330m E
DP2 - E.L. 21/78:	5 555 000m N	242 000m E
DP3 - E.L. 39/80:	5 596 000m N	240 000m E

Australian Map Grid Zone 55 (AMG)

SUMMARY

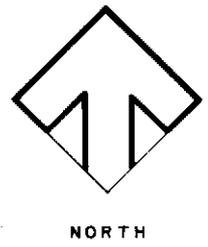
The work carried out over the past twelve months has consisted of:-

Diamond Drilling of two surface holes D300/8 and 360/14 (suspended) designed to test for extensions to the mine series rocks south of the current Dolphin Mine Area. Both holes had difficulty in penetrating the overburden dump but once bedrock was reached drilling conditions were good.

Hole D300/8 intersected 'B' Lens, prior to entering the granite, and thus proved the extension of mine series rocks south to at least 565660 N, some 200 metres south of the southern limit of the current mining block.

The Susceptibility Study of diamond drill cores from the two granite contacts was completed. The results showed that there is sufficient difference in the magnetic susceptibilities of the various rock types to allow discrimination between the various rock units.

A re-examination and reassessment of the potential of the area south of the current Dolphin Mine block in the light of the results obtained from hole D300/8. This work served to confirm the potential for extensions of the known ore lenses into this area.



LEGEND:
⊙ DIAMOND DRILLING
▤ GEOPHYSICAL GRID

5 cm

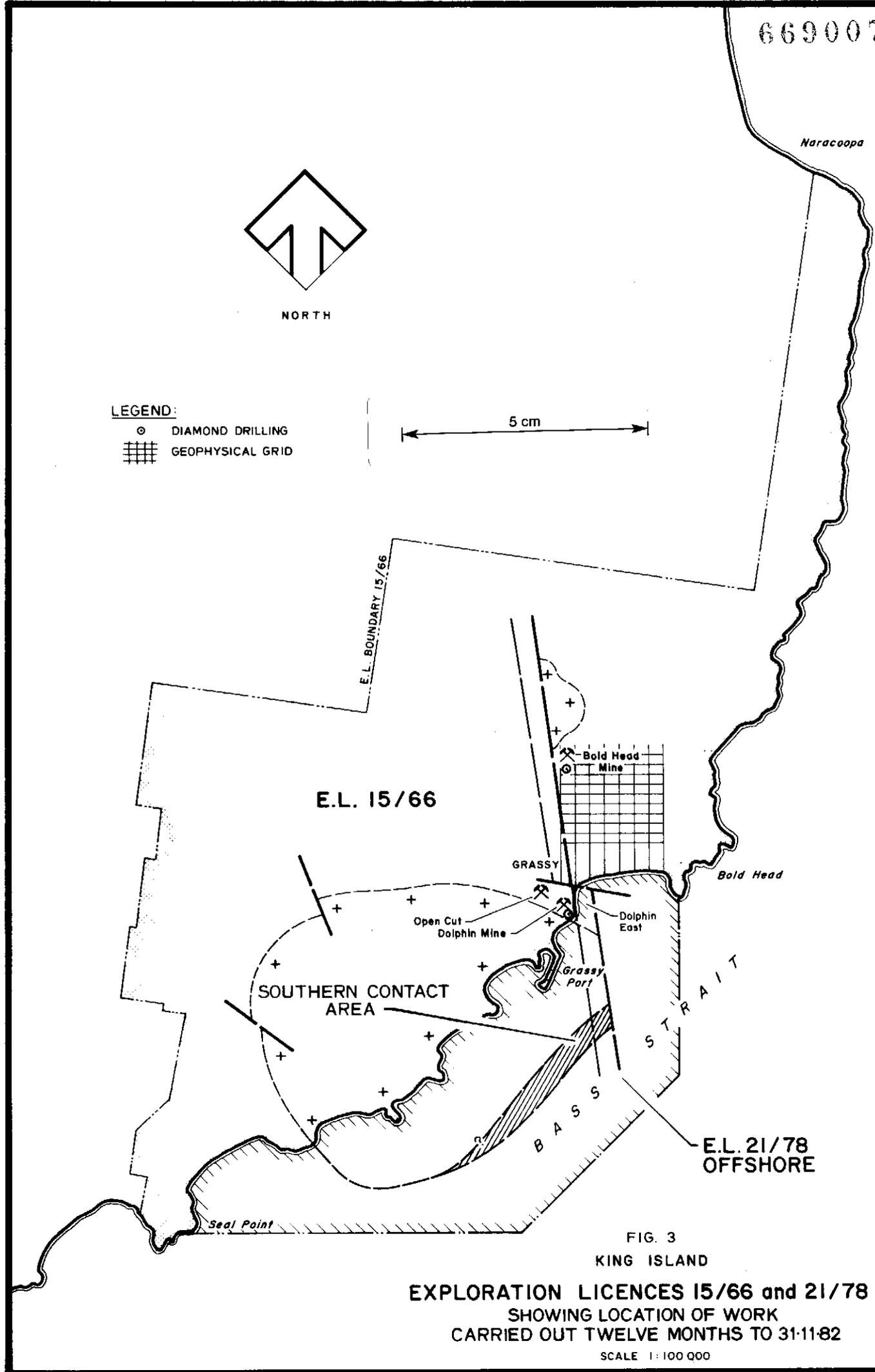


FIG. 3
KING ISLAND
EXPLORATION LICENCES 15/66 and 21/78
SHOWING LOCATION OF WORK
CARRIED OUT TWELVE MONTHS TO 31-11-82
SCALE 1:100 000

DISCUSSION

It is probably appropriate here to define some of the terms used to describe the areas of interest in E.L. 21/78 and E.L. 15/66. Their locations are shown on Figure 4.

- (a) Dolphin Mine Area - All mine series rocks lying east of 219840E, west of the Grassy River Fault and north of the Swan fault.
- (b) Southern Orebody - All mine series rocks lying south of the Swan Fault but west of the inferred southern extension of the Decline fault. This zone is bounded to the south by the intersection of the Granite Contact and the C Lens Horizon.
- (c) Decline Orebody (South) - Any mine series rocks occurring between the inferred southern extensions of the Decline fault and the Grassy River fault. The southern limit of this zone is indeterminate but is currently taken as the 563600N co-ordinate.

To date this area is untested by diamond drilling and the presence of mine series is thus still theoretical.

The locations of above areas are also shown in Figure 5.

- (d) Teredo (Southern Granite Contact) - This is the term used for the offshore area where the southern contact of the Grassy Granite is in close proximity to the inferred southern extension of the Grassy River fault.

Aeromagnetic data suggests the presence of volcanics which could overlie mine series rocks. Depth of water makes the evaluation of this prospect difficult.

- (e) Window - A theoretical conception which allows for continuity of sequence between the Decline Orebody South and the Teredo area in the zone between the Decline and Grassy River fault. (Figure 6).

EXPLORATION AREAS:

669009

CATEGORY I - PROSPECT: C DOLPHIN MINE
E SOUTHERN OREBODY

CATEGORY II - PROSPECT: D DECLINE OREBODY
G TEREDO

CATEGORY III - PROSPECT: F WINDOW
L DOLPHIN EAST

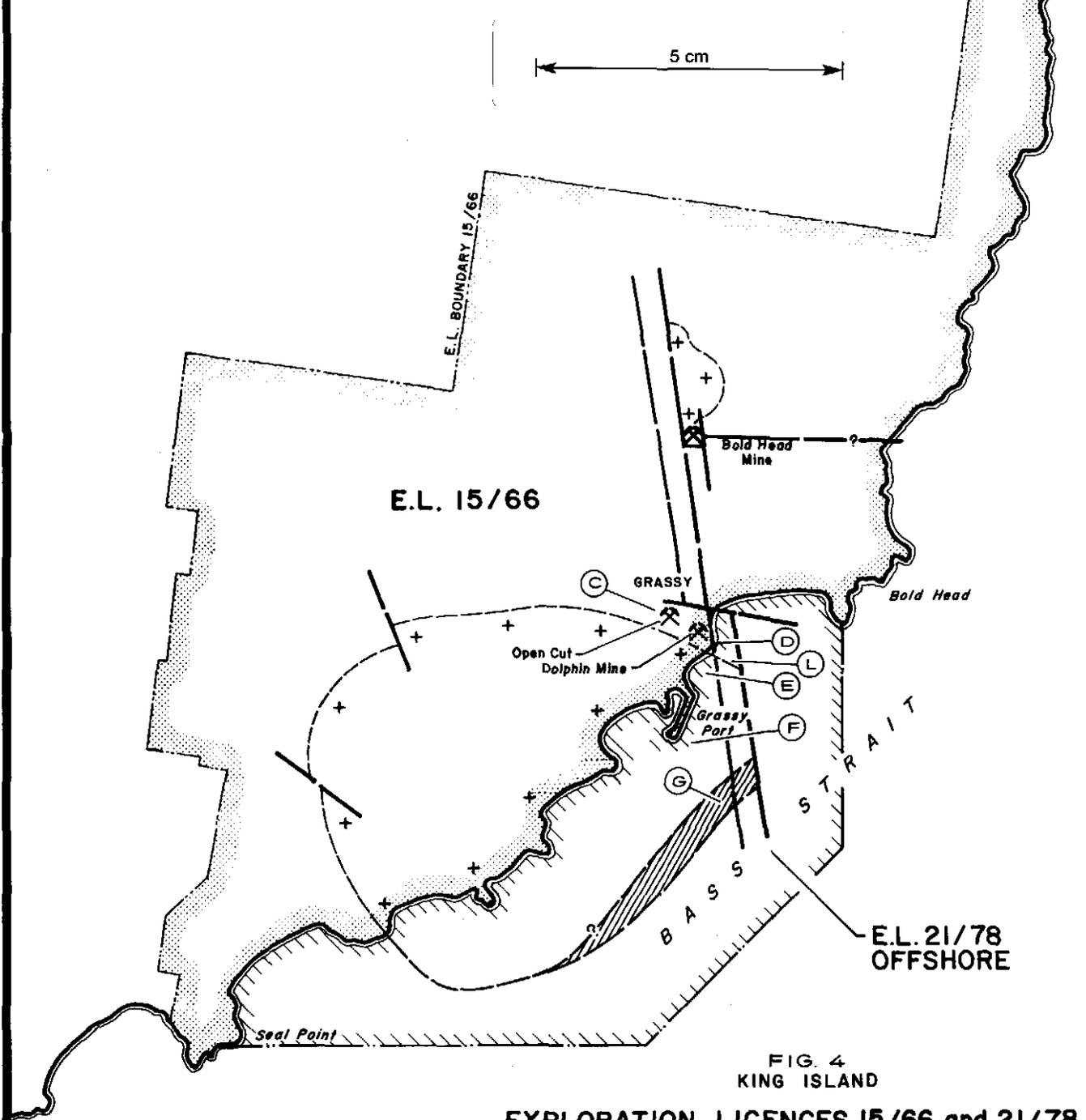


FIG. 4
KING ISLAND
EXPLORATION LICENCES 15/66 and 21/78
SCALE 1:100000
SHOWING EXPLORATION AREAS

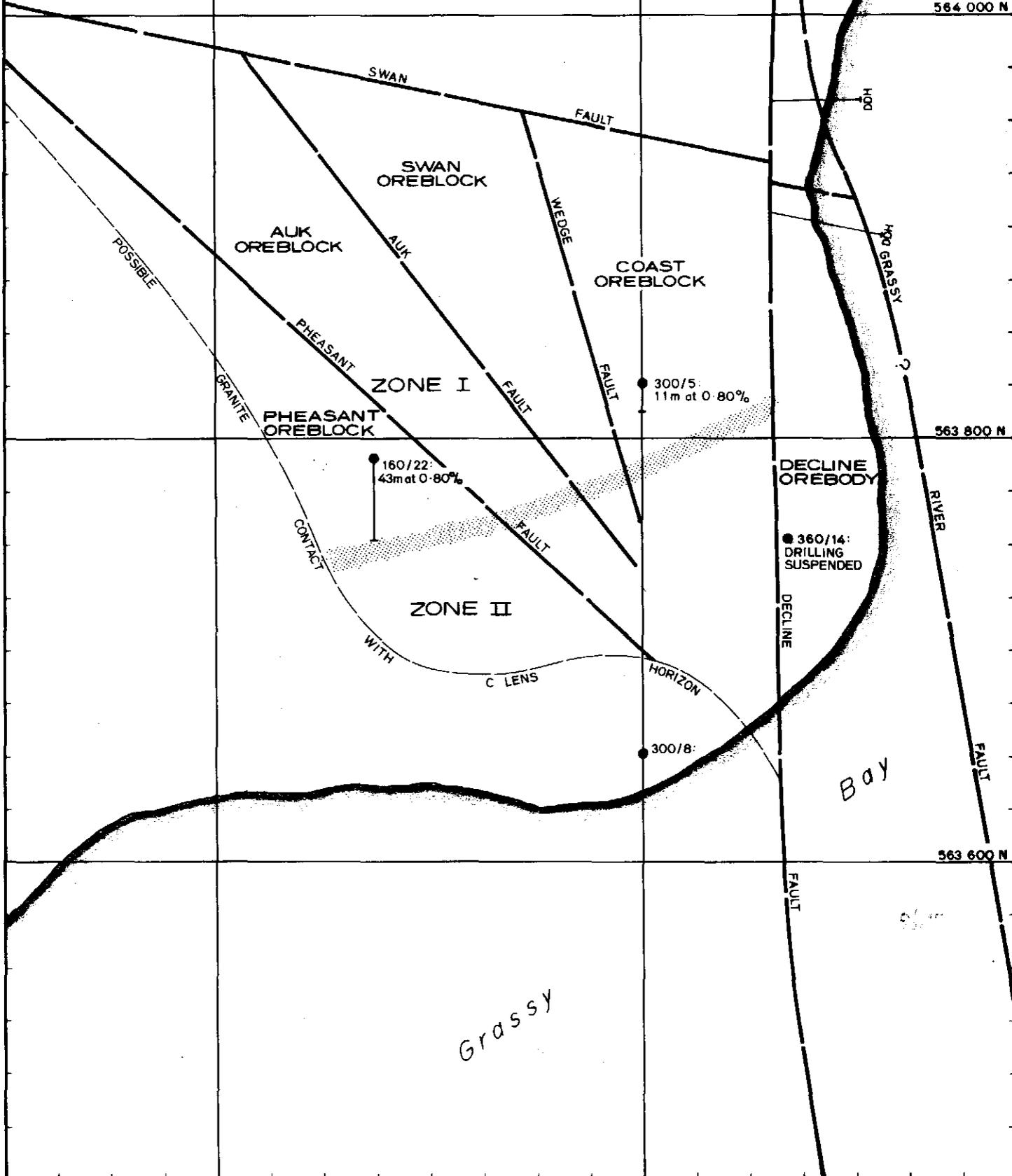
669010

220 100 E

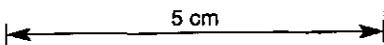
220 300 E

CURRENT MINING BLOCK
POTENTIAL ESSENTIALLY DEFINED

564 000 N



REF PLAN



GEOLOGY

SURVEY

PLANNING

ROCK MEC

GRADE CON

DRAFTING

TSS

1 : 2 500
SCALE



KING ISLAND SCHEELITE
GRASSY KING ISLAND

SOUTHERN OREBODY
SHOWING LOCATION OF ORE BLOCKS

DRAWING NUMBER

FIGURE 5:

- (f) Dolphin East - The possible downfaulted portion of the mine series rocks occurring east of the Grassy River Fault. These if present would occur at considerable depth. Diamond drill hole D360/12, drilled to test the possibility of any shallow occurrence of mine series, encountered only the Upper Volcanic sequence. (Figures 6 & 7)

Diamond drilling of hole D300/8 collared at a point 565660N 220300E was by far the most important piece of work carried out during the past twelve months. This hole was designed to test for extensions to the mine series south of the current mine openings at a position some 140 metres further east than the intersections reported previously (D160/22 and D160/23). Figure 8

This target was also some 100 metres further south than previously tested.

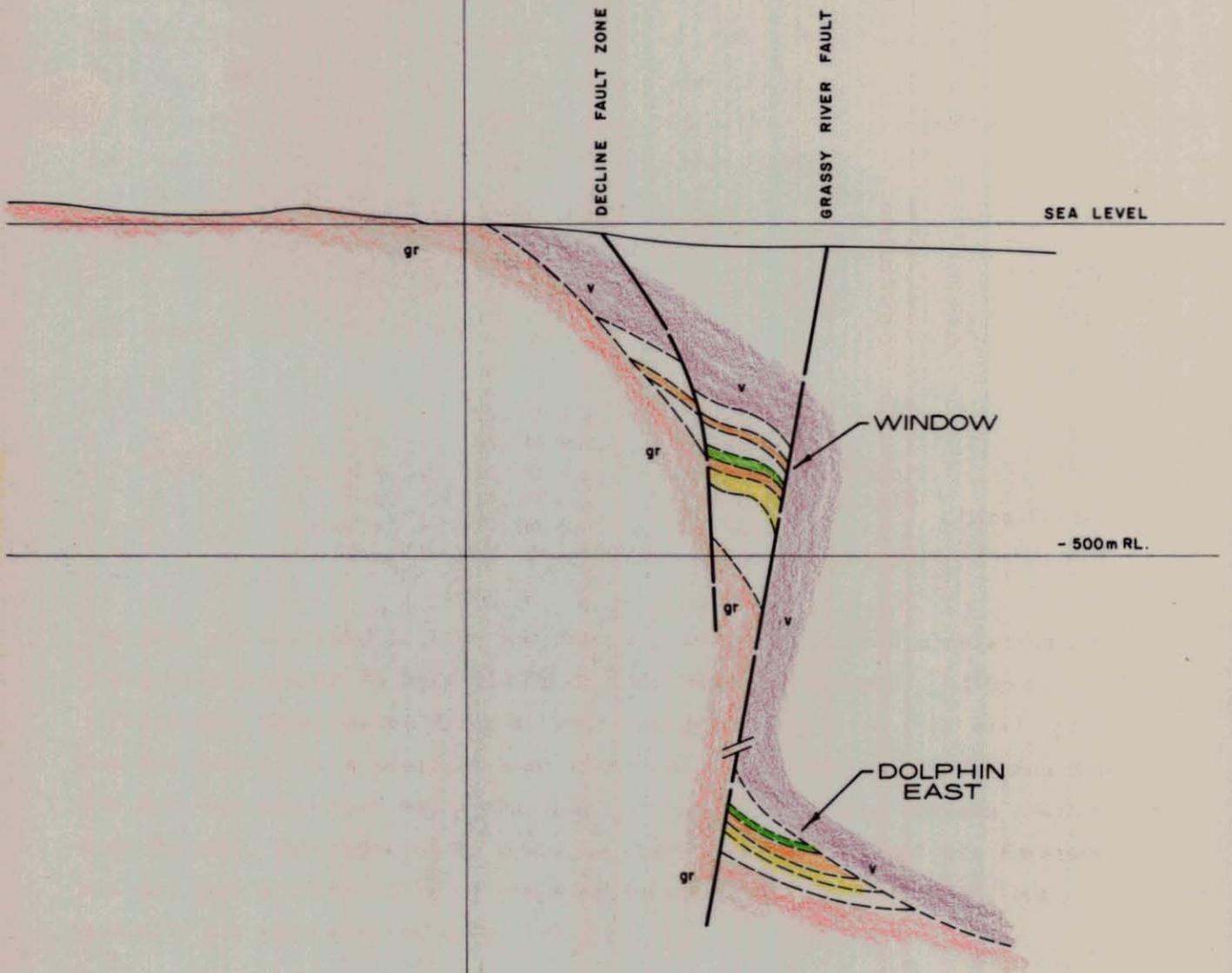
The summary drill log of D300/8 is:-

0.00 m	-	21.00 m	Overburden Dump
21.00 m	-	65.00 m	Sand
65.00 m	-	316.00 m	Upper Volcanics
316.00 m	-	346.00 m	Biotite Hornfels) Mine Series
346.00 m	-	377.00 m	B Lens Marble
377.00 m	-	468.00 m	E.O.H. Grassy Adamellite

The hole was designed to test the down dip extension of the mineralisation previously recorded in hole D300/5 drilled from underground. Although intersecting Mine Series Rocks at the interpreted position, the drill hole entered granite at a position some sixty to seventy metres higher than hoped. The hole was continued below the level at which the C Lens Horizon (Main Orebody Dolphin) was expected to occur to ensure that the adamellite intersected was not just a thick sill, of the type recorded at Bold Head Mine, but actually the main granite body. (Figure 9)

Initially it was felt that this hole had defined the southern and western limits of the mine series in this Southern Orebody Area as shown on Figure 5 but re-interpretation of the available data together with experience gained from development work in the footwall of the Dolphin Orebody suggests that drill hole D300/8 could have been located above the southern extension of a north west-south east trending granite ridge and that the lower portion of the mine series sequence could occur both east and west of the position of this drill hole. (Figure 10)

220 000 E



SCHEMATIC LONGITUDINAL SECTION - 563 500 N

SCALE 1:10 000

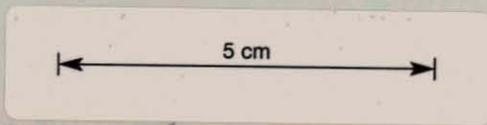
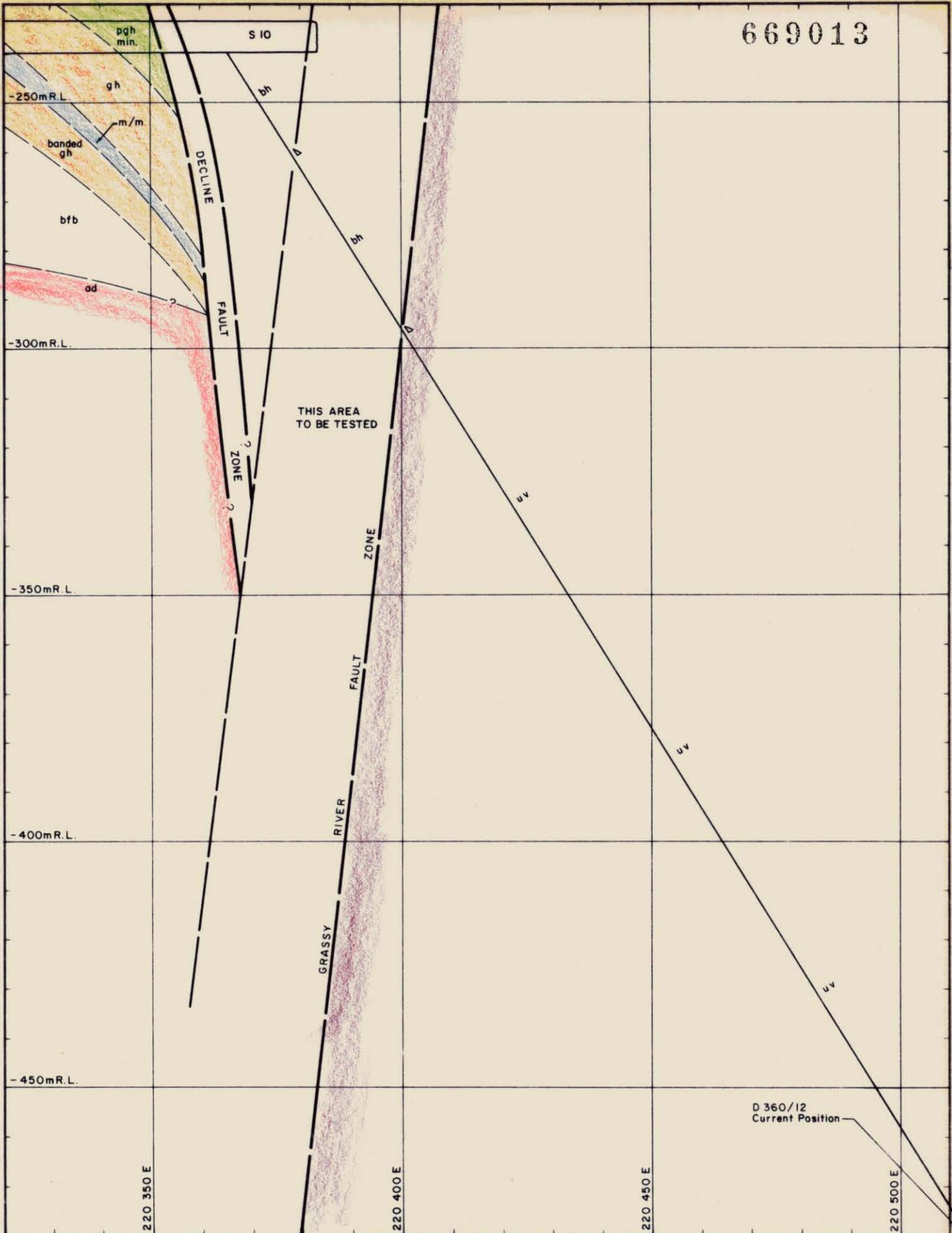
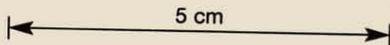


FIGURE 6:

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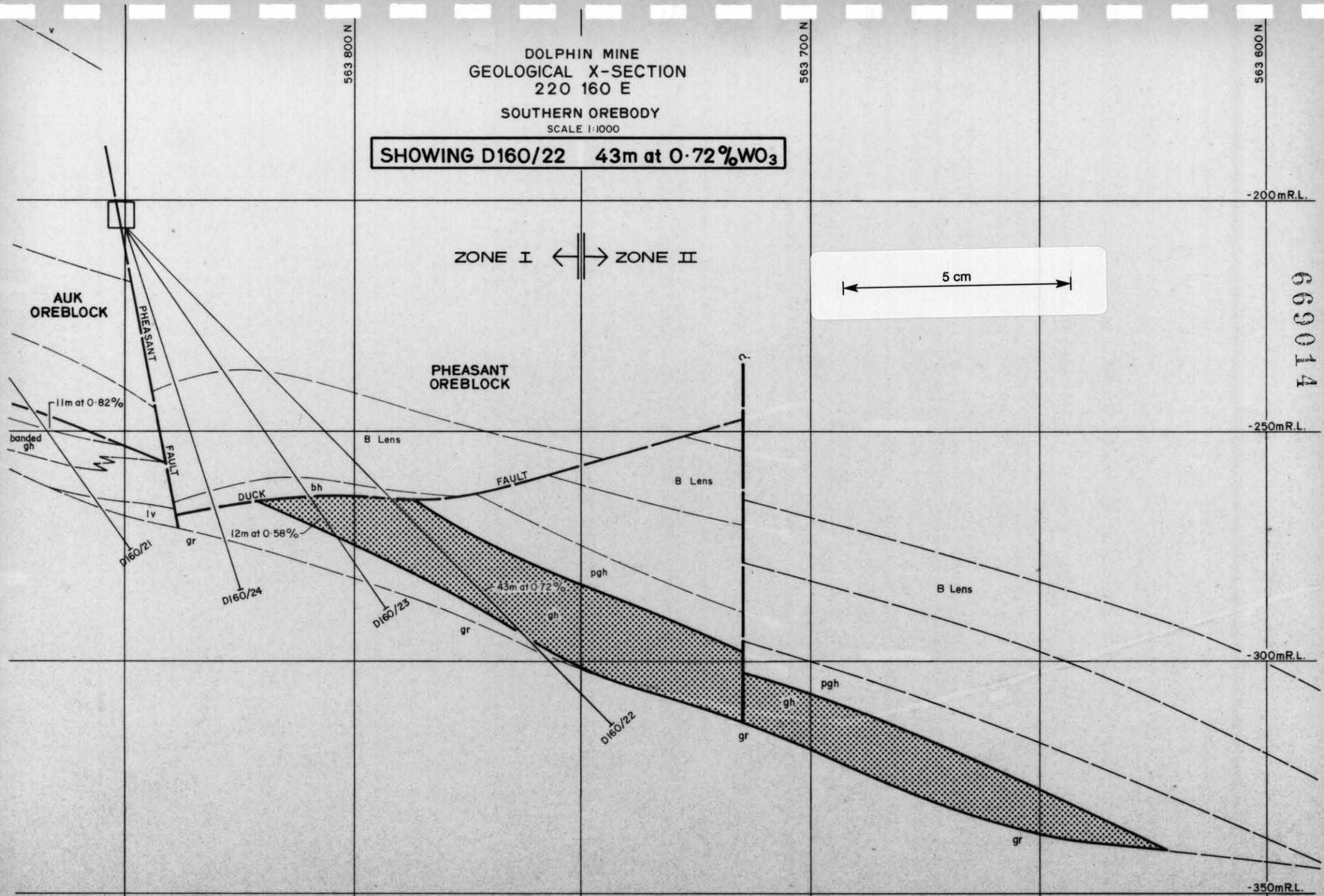


<p>REF PLAN</p> 	GEOLOGY	S.G.B.	8-12-80	<p>1:1000 SCALE</p>	
	SURVEY				
	PLANNING			<p>DOLPHIN MINE 564 975 N L/SECT. SHOWING DDH 360/12</p>	
	ROCK MEC				
	GRADE CON.				
	DRAFTING				
T.S.S.			<p>FIGURE 7:</p>		

DOLPHIN MINE
GEOLOGICAL X-SECTION
220 160 E

SOUTHERN OREBODY
SCALE 1:1000

SHOWING D160/22 43m at 0.72% WO₃



-200mR.L.

-250mR.L.

-300mR.L.

-350mR.L.

669014

FIGURE 8:

DOLPHIN MINE
GEOLOGICAL X-SECTION
220 300 E
SOUTHERN OREBODY
SCALE 1:1000

D300/8:
Col. 11.0mRL.

SHOWING D 300/5 11m at 0.80%WO₃

ZONE I ↔ ZONE II

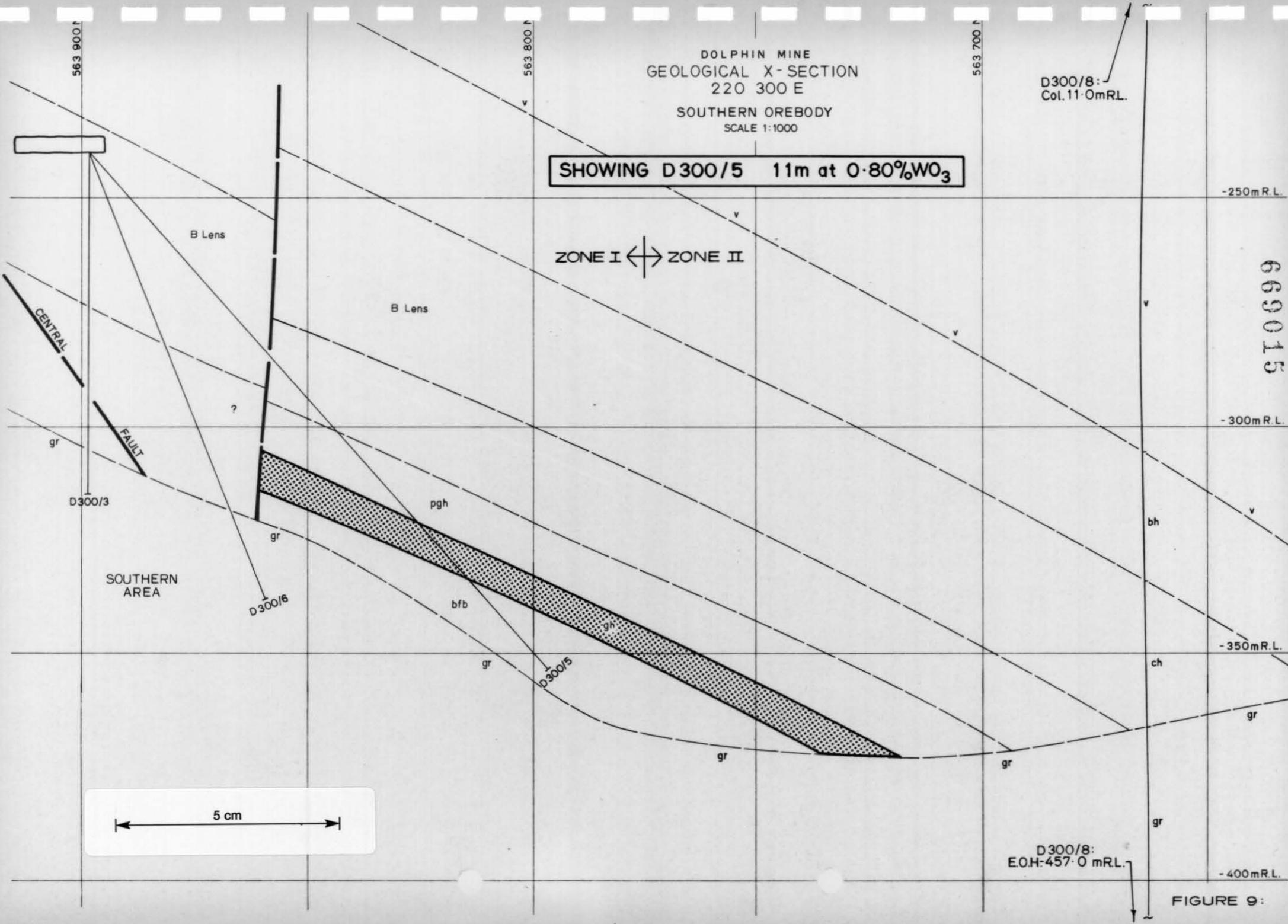
-250mRL.

-300mRL.

-350mRL.

-400mRL.

669015



5 cm

FIGURE 9:



REF PLAN

GEOLOGY S.G.B. NOV. 1982

SCALE 1:2000

KING ISLAND SCHELLITE
KING ISLAND

SURVEY	
PLANNING	
ROCK MEC	
GRADE CON	
DRAFTING	R.F.
T.S.S.	

SOUTHERN OREBODY

PLAN PROJECTION OF MAIN OREBODIES
BASED ON CURRENT INTERPRETATION

FIG. 10

Drill hole 360/14 was designed to test the Decline Orebody at a point 220360E 563750N but had to be suspended at a depth of 157 m due to financial considerations. Continuation of this hole is considered to be one of the highest priorities once funds become available.

The susceptibility study carried out on diamond drill cores from the rocks around the two granite bodies, the Bold Head and Grassy Granites was completed. The results, shown in histogram form in Appendix 1, showed that there is sufficient difference in the magnetic susceptibilities of the various rock types to allow discrimination between the various rock units. The first use of this data will be in conjunction with the geophysical surveys to be carried out in January on the Bold Head Area of EL 15/66 and comparison of the interpretation obtained from this data with existing and planned diamond drill hole results will allow an assessment of its usefulness in actual operation. The technique will then be applied to the data for the Teredo prospect to assess the depth to base of the volcanics in that area.

FUTURE WORK PROGRAMME

A definite timing on the work programme for this licence area will depend on the availability of funds for expenditure on major exploration work.

The current plan is to carryout the following work during the next twelve months:-

- (1) Complete surface drill hole D360/14 and drill one further hole in the southern orebody area to test the overall structure.
- (2) When underground development into suitable positions for testing southern orebody is completed, carry out exploration diamond drilling from these sites prior to oreblocking drilling being undertaken.
- (3) Carry out a sparker seismic, magnetic and echosounder survey in the area south of the abovementioned drill holes. This survey would be carried out to extend our knowledge of the structural geology of the area south of the current shore line prior to any drilling being carried out.

The aim of the work at present planned is to extend our knowledge of the geology south from the Dolphin Mine in the area adjacent to and west of the Grassy River Fault. It is currently planned that this work will eventually extend south along this zone of potential to the southern contact area.

EXPENDITURE

Exploration Licence 21/78 twelve months to 14th January 1983.

Geology	\$ 2 797.00
Drafting (estimated)	900.00
Diamond Drilling	94 159.05
Field Expenses	160.00
Administration	952.00
	<hr/>
	\$98 968.05
	<hr/>

The expenditure includes an estimate for nil expenditure in the period 14th December 1982 to 14th January 1983.

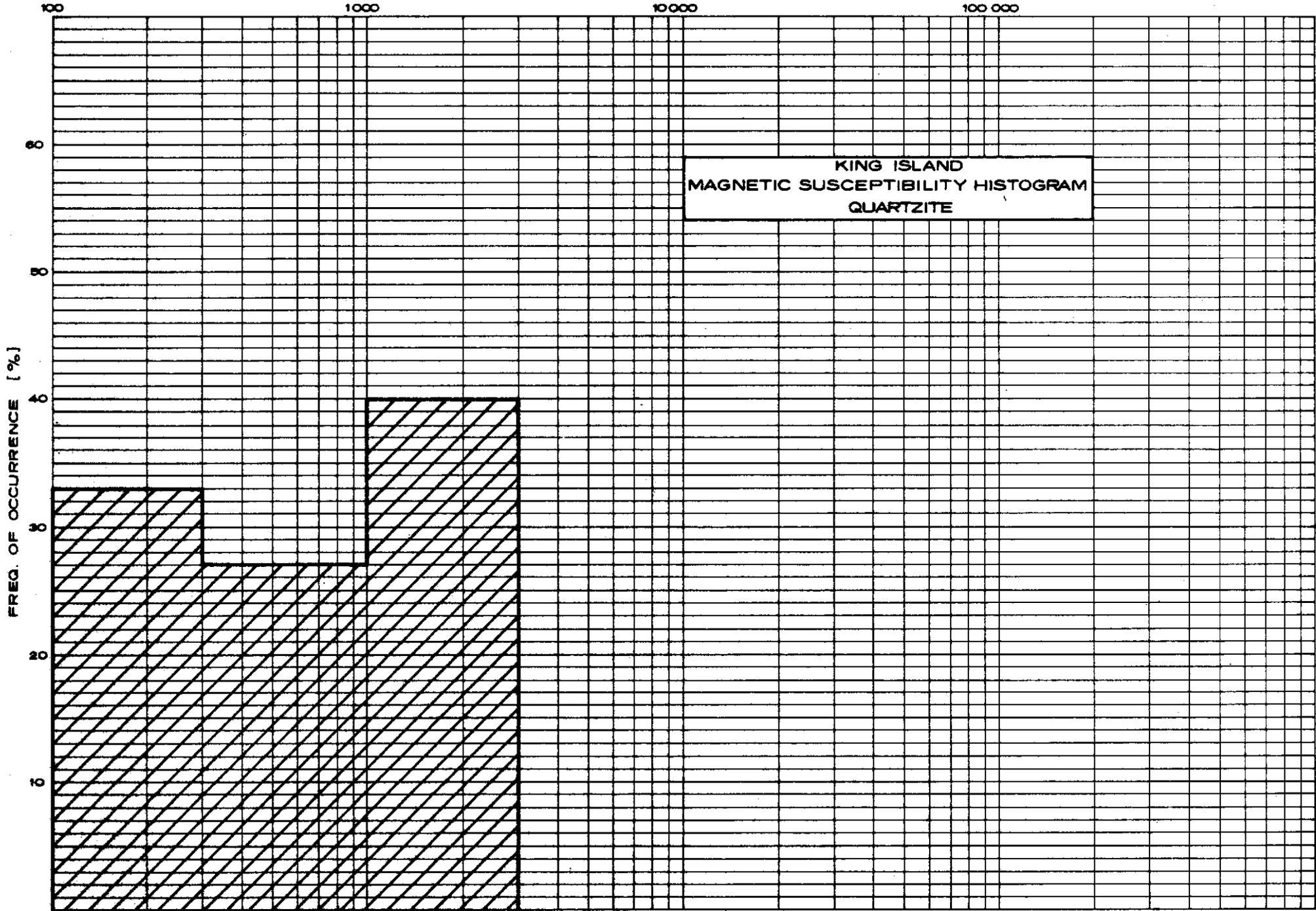
The Drafting figure is estimated since it was carried out by King Island Scheelite staff and not charged to this project.

S. Grieve Brown
SUPERVISING GEOLOGIST

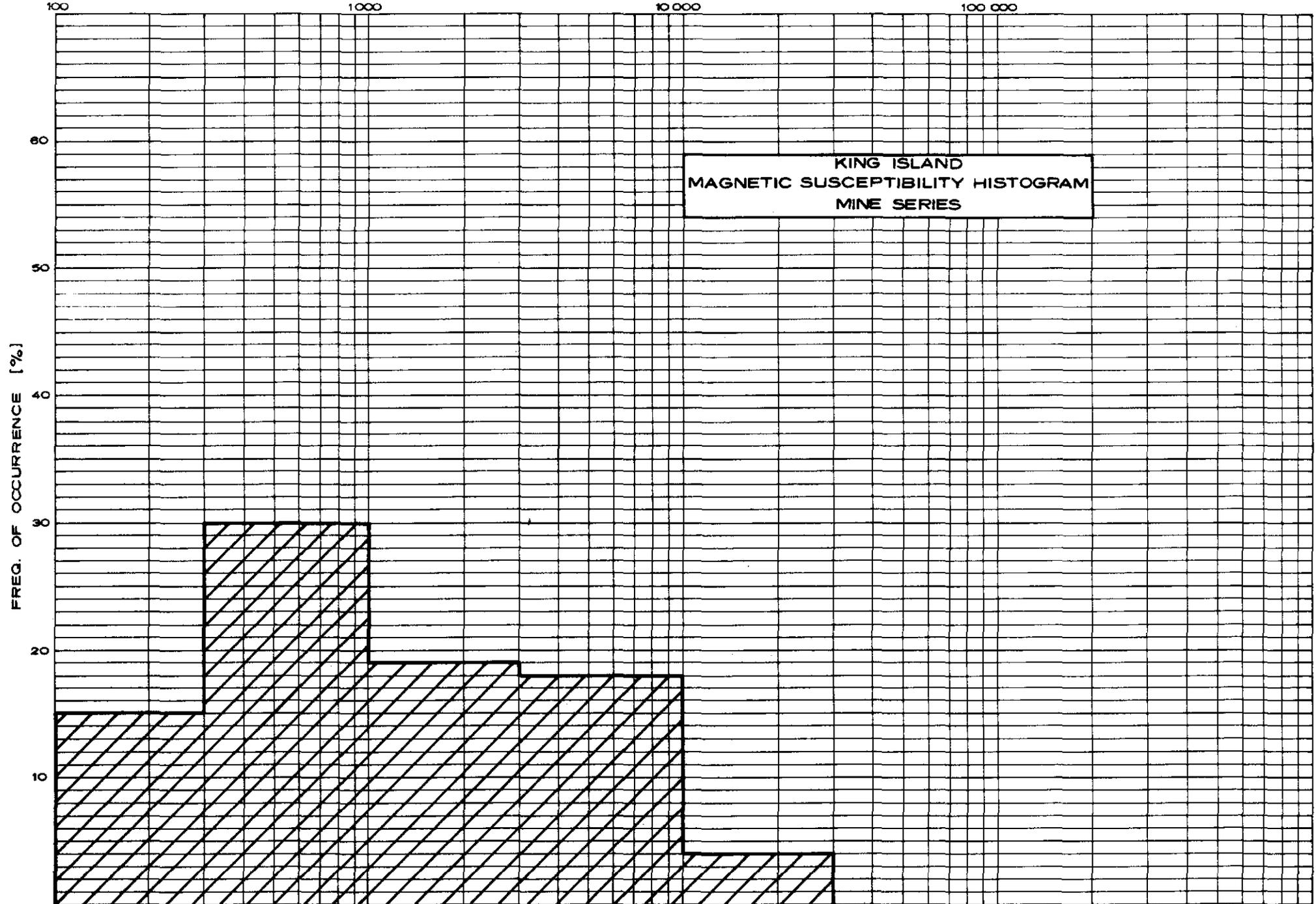
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SI - SUSCEPTIBILITY [$\times 10^6$]

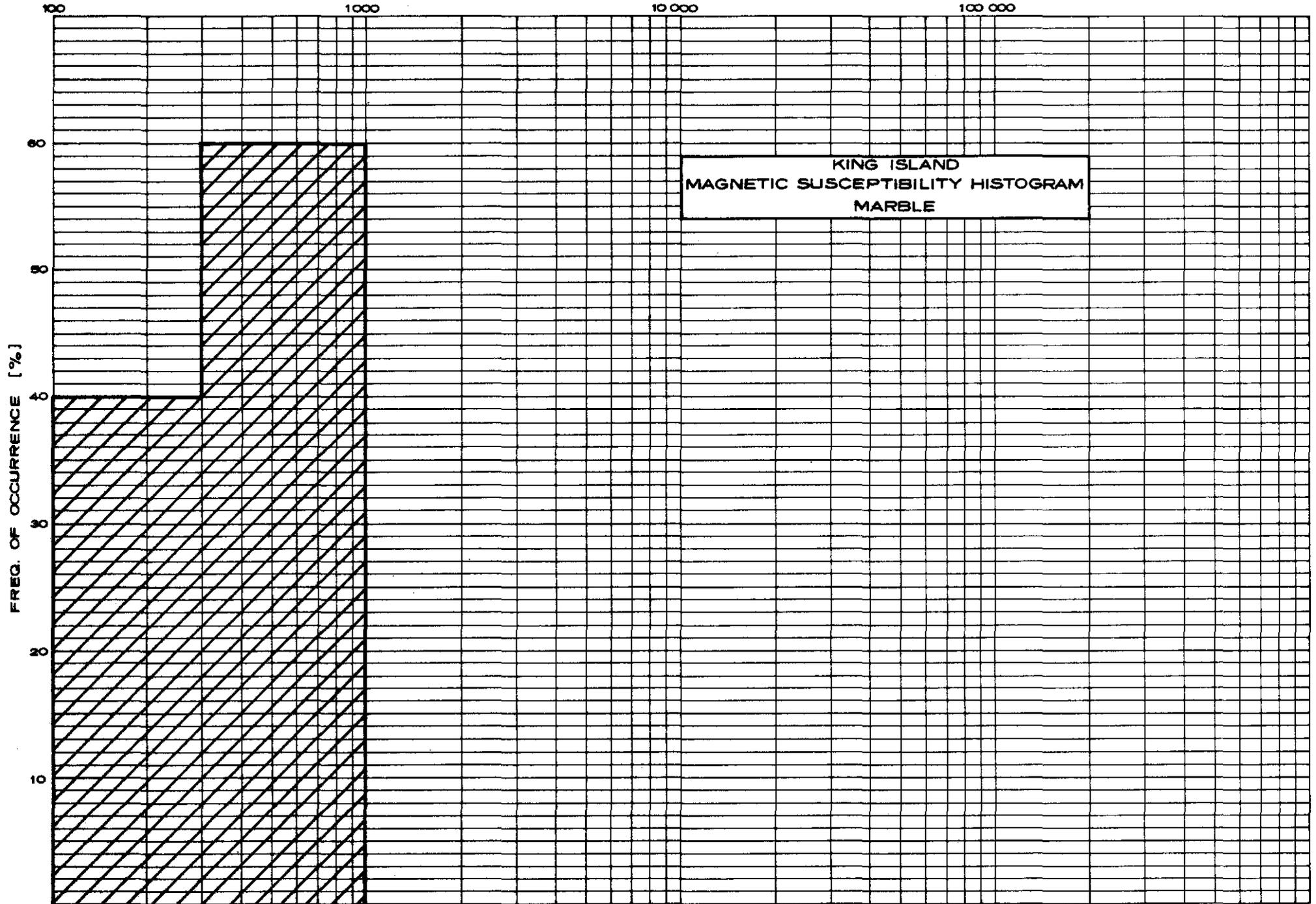


SI - SUSCEPTIBILITY [$\times 10^6$]



KING ISLAND
MAGNETIC SUSCEPTIBILITY HISTOGRAM
MINE SERIES

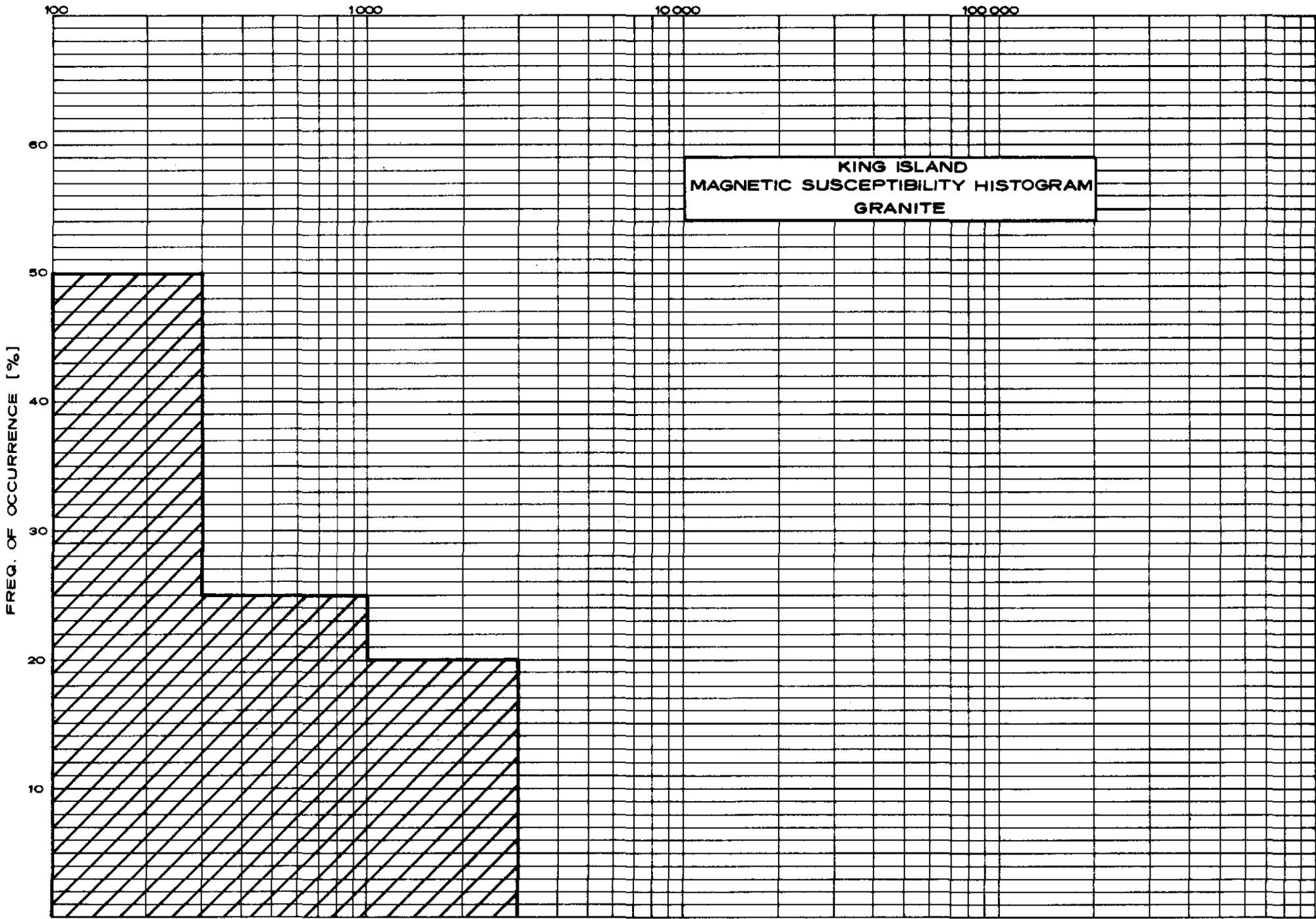
SI - SUSCEPTIBILITY [$\times 10^6$]



KING ISLAND
MAGNETIC SUSCEPTIBILITY HISTOGRAM
MARBLE

669023

SI - SUSCEPTIBILITY [$\times 10^6$]

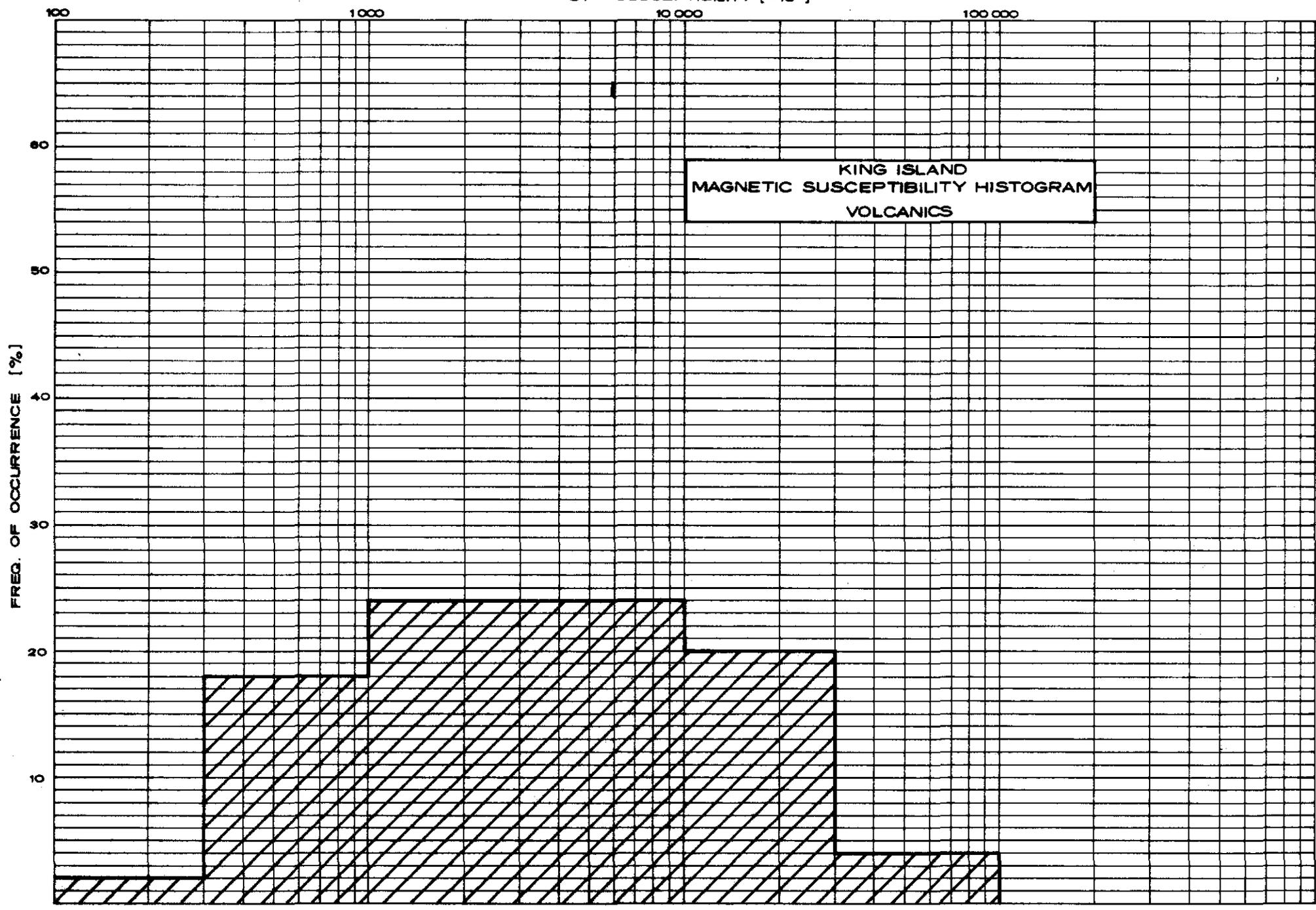


KING ISLAND
MAGNETIC SUSCEPTIBILITY HISTOGRAM
GRANITE

669024

82-1876

SI - SUSCEPTIBILITY [$\times 10^6$]



KING ISLAND
MAGNETIC SUSCEPTIBILITY HISTOGRAM
VOLCANICS

669025